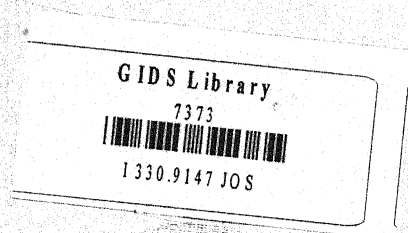


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UNDER DEVELOPMENT IN HILL AREAS
OF
UTTAR PARADESH
A SOCIO-ECONOMIC STUDY

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LUCKNOW

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I

INTRODUCTION

The need to bring about the development of hill areas has assumed considerable importance in recent years. There are a number of factors responsible for placing the issue of the development of hill areas high on the agenda of national development issues. First, one could refer to the Sino-Indian border war of 1962 which underlined the strategic importance of the hill areas of the North and North-East. It came to be realised that backwardness of these areas could be potentially damaging to the security interests of the nation as the situation could lead to feelings of frustration and helplessness among the people - sentiments which the nation could ill afford in a sensitive border region.

One immediate fall-out of the Sino-Indian border war was the hectic road-building activity undertaken in these areas. While it is true that the main impetus behind road-construction was strategic and logistic rather than developmental, it also cannot be denied that roads exert a powerful influence on development and change. This is especially so in the hill areas because the nature of the terrain imposes severe limitations on communication and accessibility. Hence, without a minimum network of all-weather roads the development of these areas is not really possible. It is hardly surprising, therefore, that in the hill areas roads have become the most

visible, and most frequently referred to, symbols of development.

The second factor responsible for the recent stress on the development of hill areas has been the realisation, especially after the Third Five Year Plan, that they have not benefited much from past development plans and programmes. Part of the problem of the slow pace of development in the hill areas lies in the fact that the policies pursued by the country so far have tended to favour the already dynamic and well-endowed regions of the country. To that extent the hill areas face the same predicament as the other backward regions of the country. There is, however, another aspect of the problem which places the hill areas in a separate category of backward regions. Development programmes for the hill areas have generally failed to take into account the peculiar problems and constraints which they have to face and which sets them apart from the other backward regions in the country. The most important of these are geographical, ecological, agro-climatic and socio-cultural features which are specific to them. This fact has been recognised by the Sixth Plan document as well :

..... certain geographical areas present some very special ecological and socio-cultural features, which unless specifically taken into account do not permit the present planning process and the schemes developed within it, to be of major assistance to them. The Hill Areas of the country belong to this category.
(p.413)

The Draft Sixth Five Year Plan of Uttar Pradesh also provides a similar assessment of the problems of the hill areas of the State :

The hill areas have so far remained insulated from the full impact of development activities on account of their special problems and represent a special case of economic backwardness. Their peculiar geographical conditions and the nature of terrain impose severe constraints on the level of development on the one hand and the efficacy of infrastructural facilities on the other. (Vol.I, p.127).

The third reason for the emphasis on development of hill areas is of more recent origin. It has its roots in the current concern with ecology, especially as it relates to development. One consequence of the ecological perspective has been the realisation that the hill areas of the country exert a profound influence on the ecology of the adjoining plains as the former contain the sources and catchment areas of some of the important river-systems. Any destabilisation in the hill ecology, either through deforestation or due to indiscriminate blasting of hill-sides for mining, quarrying, road construction or dam building etc. can lead to rapid soil erosion and siltation of water courses, river beds and reservoirs. The hill areas are denuded of valuable forest cover which, apart from providing important products like fuelwood, timber, fodder and minor forest produce to the local people, also helps in soil stabilisation and water conservation and management. The plains, on the other hand, are faced with the twin, though paradoxical, threats of water shortages and floods.

The dynamics of the ecological processes and consequences dictate that the development of the hill areas has to be

planned and implemented without irreversibly damaging the delicate environmental balance. This fact has also been recognised in the Sixth Five Year Plan :

But such development (of the hill areas), however, has to proceed in a way that the eco-system constituting the hills and the plains is not irreversibly damaged, but is preserved in a suitable condition for future generations. There is, therefore, a paramount need for conceiving an integrated strategy for the development of the hill areas based on sound principles of ecology and economics. (p.413).

It is thus quite clear that there is a general consensus, at least among the planners and policy makers, that the hill areas of the country are economically backward and that they constitute a special case of backwardness because of geographical, agro-climatic, ecological and socio-cultural factors.

The present study is an attempt to find out the broad dimensions of backwardness in the hill region of Uttar Pradesh and what impact it has on the lives of the people. The hill region of Uttar Pradesh comprises eight districts viz., Almora, Chamoli, Dehra Dun, Garhwal, Nainital, Pithoragarh, Tehri Garhwal and Uttar Kashi, situated in the northern part of the State. To the north of the region lies China, to the east, Nepal while Himachal Pradesh lies to its west and the plains of Uttar Pradesh to the south. Its population according to the 1981 Census was 48.15 lakhs and area 51,125 sq.kms., which constitute 4.3 per cent and 17.4 per cent respectively of the total population and area of the State.

II

ECONOMIC PROFILE OF THE HILL REGION OF U.P.: A MACRO PERSPECTIVE

At the outset it will be relevant to examine in what sense the hill areas of Uttar Pradesh can be considered backward. An obvious, and frequently employed technique, is to compare the hill region of the state with other regions and the state as a whole using certain well known indicators of development like per capita income and the sectoral composition of income. The relevant data are given in Table 2.1.

From Table 2.1 it will be seen that in terms of per capita income in 1975-76 the hill region of Uttar Pradesh was in fact the most prosperous region in the state. Its per capita income, (Rs.1061) was higher than that of any other region and was 40 per cent higher than the state average (Rs.753). From this point of view, therefore, the hill region can hardly be considered backward.

✓ However when we consider the sectoral composition of the total income we find that the economy of the hill region is dominated by agriculture which accounts for about 61 per cent of the total income compared to about 55 per cent for the state as a whole. In this respect the hill region is quite similar to the Eastern Region and Bundelkhand which are the two other backward regions in the state. In the Eastern Region agriculture contributes about 60 per cent of total income and in Bundelkhand about 62 per cent. The other

Table 2.1 : Estimates of Total Income by Sectors and Per Capita Income for Various Regions of U.P. (1975-76 at Current Prices)

(Amount in Rs. Crores)								
Region	Agriculture & Allied Activities	Mining and Quarrying	Manufacturing		Construction	Other Sectors	Total	Per Capita Income (Rs.)
			Registered	Unregistered				
<u>Western</u>								
Amount	1613.90	0.04	203.36	175.06	212.21	914.35	3118.92	901.01
Percentage	51.75	0.00	6.52	5.61	6.80	29.32	100.00	
<u>Central</u>								
Amount	687.65	32.04	82.97	56.65	57.23	449.16	1365.70	786.38
Percentage	50.35	2.35	6.08	4.15	4.19	32.89	100.00	
<u>Bundelkhand</u>								
Amount	208.90	0.04	0.88	15.97	16.68	97.38	339.05	711.54
Percentage	61.61	0.01	0.26	4.47	4.92	28.72	100.00	
<u>Eastern</u>								
Amount	1232.90	0.19	83.30	110.16	78.15	554.72	2059.42	560.43
Percentage	59.87	0.01	4.04	5.35	3.79	26.94	100.00	
<u>Hill</u>								
Amount	280.41	0.32	12.31	8.30	33.62	127.41	462.37	1061.46
Percentage	60.65	0.07	2.66	1.80	7.27	27.56	100.00	
<u>U.P.</u>								
Amount	4023.76	32.63	393.25	383.05	397.89	2143.02	7373.60	753.55
Percentage	54.57	0.44	5.33	5.20	5.37	29.06	100.00	

Source : Estimates prepared by Shri R.C. Sinha for a research project in progress at the Giri Institute.

sector which contributes a relatively higher share to the income of the hill region as compared to other regions is construction. It accounts for about 7.3 per cent of total income compared to about 5.4 per cent for the state as a whole. In the other regions the share of construction in total income varies from about 3.8 per cent in the Eastern Region to about 6.8 per cent in the Western Region. The share of Other Sectors (mainly service sector) in income is lower in the hill region than in the state and in all other regions except the Eastern.

A noteworthy feature of the sectoral composition of income is the extremely low share of manufacturing in the income of the hill region. While the state average is about 10.5 per cent, in the hill region it is only about 4.5 per cent which is even lower than that of Bundelkhand. It would thus appear that the economy of the hill region is predominantly agrarian in character with very little industrial activity.

It needs to be mentioned here that in Table 2.1 agriculture and allied activities include forestry. Forestry occupies an important place in the economy of the hill region of U.P. because a major proportion of the state's forest area falls in this region. The total forest area in Uttar Pradesh is reported to be 51,136 sq. kms. of which two-thirds (34,047 sq.kms.) is in the hill region. Table 2.2 gives an idea of the income from forestry and the share of forestry in total income for different regions of the State. It will be seen

that about 64 per cent of forestry income in the state accrues in the hill region. In 1975-76 this amounted to Rs.54 crores which is at least 4 to 17 times higher than that of the other regions. Further, income from forestry as a proportion of total income is also highest in the hill region - 11.7 per cent. In all other regions this proportion is less than one per cent while in the state as a whole it is just over one per cent.

The problem with such a high component of income from forestry in the total income of the hill region is that it tends to distort the economic profile of the region relative to the other regions of the State. The main reason for this is that forestry in the hill areas is in the nature of an extractive activity which brings very little returns to the local people. The manner of exploitation of the forests is such that the trees are felled and transported out of the hills for processing. Thus while income from forestry is shown as accruing to the hill areas, a very small part of it, i.e. the wage component of forestry and logging operations, actually accrues to the local people. In this way we find that while the income from forestry pushes up the total income of the hill region, it has a minimal impact on the actual incomes of the local population.

Based on this reasoning, if income from forestry is excluded in computing the per capita income of the hill region we find that though the per capita income of this region drops to Rs.937.44 it is, nevertheless, higher than that of any other region in the State.

Table 2.2 : Share of Forestry in Total Income :
Region-wise 1975-76

Region	Total Income (Rs. Crores)	Income from forestry (Rs. Crores)	Share of Forestry in Total Income (%)
Western	3118.92	7.01	0.22
Central	1365.70	8.66	0.63
Bundelkhand	339.05	3.20	0.94
Eastern	2059.42	12.12	0.59
Hill	462.37	54.02	11.68
State	7373.60	85.01	1.15

Source : Ibid.

A second, perhaps more important, reason for the distortion in the aggregate economic profile of the hill region of Uttar Pradesh is the high degree of intra-regional (inter-district) disparity that one finds there. Included in the eight districts of the region are two, Dehra Dun and Naini Tal, which have a substantial plains area and rank among the most developed districts in the State. These two districts together accounted for almost 36 per cent of the region's population, 20 per cent of its area and over 50 per cent of its total income in 1975-76.

Estimates of total and per capita income for the different districts of the hill region are given in Table 2.3. There is, obviously, considerable variation in the per capita income levels in the different districts. The figures for Dehra Dun

and Naini Tal are about double the state average, while for Almora and Pithoragarh they are less than the state average. In the case of the other four districts though the per capita income levels are higher than the state average, the degree of difference is not as great as that of the hill region as a whole. Per capita incomes in Garhwal and Chamoli are about 10 per cent higher than the state average and in Tehri Garhwal and Uttar Kashi about 29 per cent higher.

It will be seen from Table 2.3 that the share of forestry in total income is relatively higher among the predominantly hill districts like Almora and Pithoragarh, Garhwal and Chamoli and Tehri Garhwal and Uttar Kashi than in those districts which have a substantial plains area like Dehra Dun and Naini Tal. In the former case the share of forestry varies from a low of about 10 per cent (Almora and Pithoragarh) to a high of over 25 per cent (Tehri Garhwal and Uttar Kashi). In Dehra Dun forestry accounts for only 5.5 per cent of the total income and its share is in fact lower than that of all other sectors, while in Nainital the share of forestry comes to about 7 per cent which is the second lowest among all sectors after manufacturing.

If, following the earlier argument we exclude income from forestry in computing per capita income then all the districts except Dehra Dun and Naini Tal fall below the state average (see Table 2.4).

Table 2.3 : Estimates of Total Income by Sectors and Per Capita Income
Income for Different Districts of the Hill Region
of U.P. (1975-76 at Current Prices)

(Amount in Rs. Crores)										
District	Agriculture and Allied Activities	Forestry	Mining & Quarrying	Manufacturing		Construction	Other Sectors (Services)	Total Income	PCI (Rs.)	
				Total	Registered					Unregistered
Almora & Pithoragarh	67.07 (71.79)	9.93 (10.63)	0.00 (0.00)	1.51 (1.62)	0.01 (0.01)	1.50 (1.61)	18.93 (20.26)	5.92 (6.34)	93.43 (100.00)	735.09
Dehra Dun	29.30 (29.57)	5.45 (5.50)	0.29 (0.29)	10.37 (10.46)	7.26 (7.32)	3.11 (3.14)	51.22 (51.69)	7.92 (7.99)	99.10 (100.00)	1519.94
Garhwal & Chamoli	54.14 (72.02)	13.95 (18.56)	0.00 (0.00)	1.03 (1.37)	0.05 (0.07)	0.98 (1.30)	15.77 (20.98)	4.23 (5.63)	75.17 (100.00)	829.69
Naini Tal	81.34 (59.82)	9.93 (7.30)	0.00 (0.00)	7.20 (5.30)	4.99 (3.67)	2.21 (1.63)	35.37 (26.01)	12.06 (8.87)	135.97 (100.00)	1469.95
Tehri & Garhwal	48.56 (82.73)	14.76 (25.14)	0.03 (0.05)	0.50 (0.85)	0.00 (0.00)	0.50 (0.85)	6.12 (10.43)	3.49 (5.95)	58.70 (100.00)	975.08
Uttar Kashi										

Note : Figures in parentheses represent percentages.

Source : Estimates prepared by Shri R.C. Sinha.

Table 2.4 : Per Capita Income Excluding Income from Forestry in the Districts of the Hill Region of U.P. (1975-76 at Current Prices)

District	Per Capita Income (Rs.)	Percentage Variation from State Average
Almora and Pithoragarh	656.96	(-) 12.82
Dehra Dun	1436.35	(+) 90.61
Garhwal & Chamoli	675.72	(-) 10.34
Naini Tal	1362.59	(+) 80.82
Tehri Garhwal and Uttar Kashi	729.90	(-) 3.14

Source : Ibid.

It will further be seen that Nainital and Dehradun continue to have per capita incomes 80 to 90 per cent above the state average even after excluding income from forestry. This indeed is another way of saying that their dependence on forestry is not as high as that of the other hill districts.

Apart from the distortions of the aggregate economic profile of the hill region caused by the inclusion of Dehradun and Nainital and of income from forestry, another crucial point which emerges from Table 2.1 is the extremely low share of manufacturing in the total income of the predominantly hill districts (i.e. excluding Dehradun and Nainital). Thus we find that manufacturing contributes over 10 per cent of the income in Dehra Dun (which is quite close to the state average of 10.5 per cent) and over 7 per cent in Naini Tal. In Almora and

Pithoragarh on the other hand, manufacturing accounts for about 1.5 per cent of total income while in the other two groups of districts its share is even lower - about one per cent in Garhwal and Chamoli, and 0.5 per cent in Tehri Garhwal and Uttar Kashi. Further, in the last three groups of districts the share of the registered (modern) manufacturing sector is almost negligible as almost the entire income from manufacturing is generated in the unregistered (traditional) sector.

Finally we find that the share in total income of the service sector in the hill region is about 27 per cent which is quite close to the state average of about 29 per cent. However, in this case too the hill region hides considerable inter district variation : In Dehradun over 50 per cent of the income is generated in this sector while in Tehri Garhwal and Uttar Kashi only about 10 per cent comes from the service sector. In the other groups of districts the share of services varies from 20 per cent to 26 per cent which is below the state average. Thus once again Dehradun's performance tends to push up the average for the hill region as a whole.

Thus when we disaggregate the data for the hill region we find a considerable degree of inter-district disparity with Dehra Dun and Naini Tal emerging as highly developed districts and the others as quite backward. The economy of the backward districts (which, incidentally, are all predominantly hill districts) is heavily dependent on primary activity, especially

agriculture and forestry. There is hardly any industry worth the name in them. In fact, a very large part of the income from manufacturing (85 per cent of all manufacturing income, over 99 per cent of income from manufacturing in the registered sector and 64 per cent in the non-registered sector) in the hill region is accounted for by Dehradun and Nainital. Thus the other districts are decidedly backward in terms of industry.

It is thus quite clear that by and large the hill areas of Uttar Pradesh present a picture of economic backwardness as the economy is dependent predominantly on agriculture and forestry. Forestry, as we have seen does not bring any real gains to the local people. As a result most of the people have to fall back on agriculture as the main source of livelihood. Table 2.5 below shows that in the hill region as a whole (all the eight districts) 77 per cent of the workforce is engaged in agriculture and allied activities, 18 per cent in services and about 4 per cent in manufacturing. The share of construction and mining and quarrying is less than one per cent each. If we exclude Dehradun and Nainital we find that in the remaining five districts 83 to 91 per cent of the workforce is engaged in agriculture and allied activities and only 1.7 to 2.1 per cent in manufacturing. The share of the service sector in total employment varies from about 7 per cent to about 14 per cent. Thus, in at least six of the eight districts agriculture is the main source of livelihood for over 80 per cent of the population. It will therefore be worthwhile to see what impact

the high degree of dependence on agriculture has on the lives of the people. This we shall do in the following chapters on the basis of survey data from three villages in Almora district.

Table 2.5 : Percentage Distribution of Employment
by Sectors : Hill Districts of U.P.
(1976-77)

District/ Region	Sectors					Total
	Agricul- ture & Allied Activi- ties	Mining & Quar- rying	Manufa- cturing	Constru- ction	Other Services	
Almora & Pithoragarh	84.07	0.04	2.11	0.67	13.11	100.00
Dehradun	39.02	0.18	9.27	1.40	50.12	100.00
Garhwal and Chamoli	83.51	0.02	1.70	0.49	14.27	100.00
Nainital	68.49	0.52	7.21	1.78	22.00	100.00
Tehri Garhwal & Uttar Kashi	91.02	0.03	1.68	0.59	6.68	100.00
Hill Region	76.90	0.13	3.70	0.89	18.37	100.00
State	77.99	0.04	7.29	0.61	14.07	100.00

Source : Ibid.

THE HILL REGION OF U.P. : A MICRO PERSPECTIVE

In this section we have attempted to study the nature of the economy at the village level in order to find out : (a) the kinds of economic activities which the people are engaged in and (b) the impact which the economy has on the living conditions of the people. The study has been carried out in three villages of Almora district. These villages were selected purposively to represent three major geographical and agro-climatic regions of the hill area - fertile valley areas which have good irrigated lands; upland regions mainly dependent on rainfed agriculture; and areas where horticulture, especially the cultivation of temperate fruits like apples, has made some headway. The villages selected are : (i) Adhuria (Takula Block) which is situated in the fertile Kosi valley close to Someshwar; (ii) Seel (Bhaisiachhana Block) which is an upland village; and (iii) Nada Dol (Langarha Block) also an upland village but which lies in the fruit-growing belt.

Some general features of the villages are given in Tables 3.1, 3.2 and 3.3 below.

Table 3.1 : General Characteristics of the Sample Villages

	Villages		
	Adhuria	Seel	Nada Dol
1. Population (1981)	196	153	837
2. Number of households (1981)	34	28	151
3. Geographical area (acres)	106.21	114.90	1675.00
4. Forest area (acres)	66.69	6.60	848.32
5. Net area sown (acres)	30.86	50.00	455.02
6. Area sown more than once (acres)	30.86	22.50	156.38
7. Area under orchards (acres)	1.25	-	149.73

Table 3.2 : Distance of Various Facilities from
Sample Villages

Facility	(Kms)		
	Villages		
	Adhuria	Seel	Nada Dol
<u>School</u>			
Primary	0.00	0.00	0.00
Junior High	1.50	0.00	0.00
High School	2.00	0.00	7.00
Intermediate	2.00	0.00	18.00
<u>Medical</u>			
PHC/Dispensary/Hospital	1.50	0.00	7.00
Private Practitioner	0.00	0.00	0.00
Post Office	1.50	0.00	0.00
Telegraph Office	1.50	0.00	30.00
Veterinary Hospital/Stockman Centre	2.00	0.00	7.00
Motorable Road	0.00	0.00	0.00

Table 3.3 : Distribution of Households by Size of Land
Holdings in the Sample Villages

Size Class of Land Holdings (acres)	Adhuria		Seel		Nada Dol	
	No	%	No	%	No	%
Less than 1	27	79.41	14	51.85	26	17.33
1 - 2	4	11.77	9	33.33	52	34.67
2 - 5	3	8.82	4	14.82	56	37.33
5 - 10	0	0.00	0	0.00	12	8.00
10 - 20	0	0.00	0	0.00	3	2.00
Over 20	0	0.00	0	0.00	1	0.67
All Classes	34	100.00	27*	100.00	150*	100.00

*One household in each of these villages is landless.

It will be seen from these tables that two of the three villages viz. Adhuria and Seel, are rather small consisting of six (population 196) and 28 (population 153) households respectively while the third, Nada Dol with 151 households (population 837), is relatively larger. Similarly the geographical area, forest area, ^{and area} under cultivation in the three villages also corresponds by and large to their size, the only exception being the area under forests in Seel which is only about 7 acres compared to about 67 acres in Adhuria and 848 acres in Nada Dol. Further only Nada Dol has a substantial area under orchards, which is understandable in view of its location in the fruit belt.

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In terms of location and availability of facilities we find that Seel is the best served followed by Adhuria and Nada Dol. While all three are connected by motorable roads, only Seel has all important facilities (e.g. Schools, PHCs/dispensaries, veterinary hospitals, post and telegraph offices etc.) within the village. In Adhuria these facilities are either within the village or within a distance of 2 kilometers at Someshwar which is a large settlement situated nearby. Nada Dol, however, is the worst served village as the facilities not available within the village are situated at a distance of 7 to 30 Kms. away.

As for the distribution of Households by land holding size, we find that almost 80 per cent in Adhuria, over 50 per cent in Seel and only about 17 per cent in Nada Dol own less than one acre. In the former two villages there are no holdings

over 5 acres, while in Nada Dol all size classes are represented (including one of more than 20 acres) although 90 per cent of the holdings are less than 5 acres. The predominance of small holdings in Adhuria (over 90 per cent being less than 2 acres) may probably be due to its location in one of the most fertile parts of Almora district - the Someshwar Valley where most of the land is irrigated by the Kosi river. Consequently the pressure on land may also be higher. The other two villages, on the other hand, are located at higher altitudes with no sources of irrigation. Even then, there are major differences in the distribution of land holdings between them. For instance, 85 per cent of the holdings in Seel are less than 2 acres in size while the corresponding figure for Nada Dol is 52 per cent. Once again, these differences may be explainable in terms of the location of the two villages. Nada Dol, as we have seen, is relatively more remote and not as well served by various facilities like Seel.

The economy of all three villages is predominantly agricultural though a few households in Nada Dol have also taken to horticulture. Agriculture, as we shall see later, is mainly of the subsistence type. The distribution of land holdings also indicates this.

Apart from a privately owned turpentine factory at Adhuria, which employs about 10 to 12 persons, there are no industries in these three villages.

For the purposes of this study a stratified random sample of 20 households was drawn from each of the three villages on the basis of distribution of land holdings. This was done in order to ensure that the sample was representative of the village in terms of the distribution of landholdings. It will be seen that a reasonably good degree of match has been obtained in this respect in two villages i.e. Seel and Nada Dol, while in Adhuria households owning less than one acre are somewhat under-represented in the sample and the other categories correspondingly over represented.

The characteristics of the sample households are given in Table 3.4 to 3.6.

Table 3.4 : General Characteristics of Sample Households

	Adhuria	Seel	Nada Dol
No of Sample Households	20	20	20
Population of Sample Households			
Male	59	58	65
Female	80	55	55
Total	139	113	120
Distribution of Sample Households by Castes			
Brahmins	-	-	10
Thakurs	20	9	5
Scheduled Castes	-	11	5
Literacy			
No. of Literates	77	47	68
% of Literates in Population	55.40	41.59	56.67

Table 3.5 : Distribution of Sample Households by Size of Landholdings

Landholding Size Class (acres)	Villages					
	Adhuria		Seel		Nada Dol	
	No	%	No	%	No	%
0 - 1	13	65.00	10	50.00	3	15.00
1 - 2	4	20.00	7	35.00	7	35.00
2 - 5	3	15.00	3	15.00	7	35.00
5 - 10	-	-	-	-	2	10.00
10 and above	-	-	-	-	1	5.00
All classes	20	100.00	20	100.00	20	100.00
Irrigated area as % of cultivated area	98.18		3.56		-	

Table 3.6 : Distribution of Sample Households by Occupation

Occupation	Villages				
	Adhuria	Seel	Nada Dol	Total	
<u>Agriculture</u>					
Main	15	8	12	35	
Secondary	5	11	8	24	
<u>Labour</u>					
Main	-	9	2	11	
Secondary	1	1	2	4	
<u>Trade/Service/Profession</u>					
Main	5	3	4	12	
Secondary	5	-	2	7	
<u>Animal Husbandry</u>					
Main	-	-	-	-	
Secondary	7	8	3	18	
<u>Horticulture</u>					
Main	-	-	2	2	
Secondary	-	-	5	5	

It will be seen from Table 3.4 that the total population of the sample households varies from 113 in Seel to 139 in Adhuria giving an average of about 5.7 to 7.0 members per household. An interesting feature of the composition of population in the sample households is that women outnumber men by about 4 to 3 in Adhuria while in the other two villages they are either evenly distributed (Seel) or men outnumber women (Nada Dol). Comparing the sex ratio among the sample households with the figures for the District (Almora) we find that the number of females per 1000 males is much higher in Adhuria than in the district, while it is lower in the other two villages. According to the 1981 census there were 1099 females per 1000 males in Almora district as a whole while in the rural areas the figure was 1139 females per 1000 males. The corresponding figures in our sample come to 1356 in Adhuria, 948 in Seel and 846 in Nada Dol.

What these figures probably show is the prevalence of male out-migration on a large scale in the district in general and in the village of Adhuria in particular. We shall have occasion to comment on this aspect of development and change in the hill areas later in this report.

As for the other characteristics of the sample households, we find that in Adhuria all the 20 households are Thakurs. This is because it is an exclusively Thakur settlement. Seel is inhabited by Thakurs and Scheduled Castes with no Brahmin households which is also reflected in our sample. Nada Dol,

on the other hand, is predominantly a Brahmin village but the other two castes are also represented. In our sample the Brahmin households constituted 50 per cent and Thakur and Scheduled Caste households 25 per cent each of the total.

In terms of literacy we find that the sample in all the three villages shows a rather high rate of literacy-ranging from about 42 per cent in Seel to almost 57 per cent in Nada Dol. This may be compared with the literacy rate of 38.90 per cent for Almora district, and 36.45 per cent for the rural areas as per the 1981 census. Surprisingly, as we saw in the previous chapter, Nada Dol is not that well served by educational facilities than the other two villages. It has facilities only upto the Junior High School level within the village while the nearest High School and Intermediate College are situated at a distance of 7 kms. and 30 kms. respectively. Yet we find that about 12 per cent of the literates have received education upto High School level and above in Nada Dol. As the data in Table 3.7 reveal the percentage of literates in the sample who have received education upto class 12 is the highest in Adhuria (16.9) followed by Nada Dol (7.4) and Seel (6.4); but it is only in Nada Dol that we find people with educational attainment higher than class 12. The number of such persons is 3 constituting 4.4 per cent of literates among the sample in the village.

The data on distribution of land holdings of the sample households shows the predominance of marginal holdings (less than 2.5 acres) in two of the three villages. Thus in Adhuria 65

Table 3.7 : Educational Level of Literates among Sample Households

Village		Class				Total
		Upto 4	5 - 9	10 - 12	Over 12	
Adhuria	No.	22	42	13	-	77
	Percentage	28.57	54.55	16.88	-	100.00
Seel	No.	21	23	3	-	47
	Percentage	44.68	48.94	6.38	-	100.00
Nada Dol	No.	29	31	5	3	68
	Percentage	42.65	45.59	7.35	4.41	100.00

per cent of the holdings are less than 1 acre in size and another 20 per cent between 1 and 2 acres. Only 15 per cent of the holdings fall in the 2 to 5 acres category and there are no holdings over 5 acres. Similarly in Seel 50 per cent of the holdings fall in the less than 1 acre class, 35 per cent in the 1 to 2 acre class and 15 per cent in the 2 to 5 acre category. The situation in Nada Dol, however, is quite different. Not only are all size classes represented but 50 per cent of the holdings are over two acres. Holdings less than 1 acre constitute only 15 per cent of the total, while 70 per cent fall in the 1 to 5 acre categories.

The real difference among the three villages, however, is in regard to the extent of irrigated area. In this respect Adhuria is very favourably placed as 98 per cent of the land of the sample households is irrigated. This is undoubtedly a very high figure. The main reason for this is that the agricultural

lands in Adhuria are situated in the Kosi Valley and irrigation is easily possible. The other two villages are situated on hill slopes and irrigation becomes difficult. As a result we find that less than 4 per cent of the land of sample households is irrigated in Seel and the entire land in Nada Dol is unirrigated.

The prevalence of very small holdings in Adhuria is most likely due to the higher productivity of land. Because a very high proportion of the cultivated area is irrigated the demand for land, and therefore the pressure on land, is likely to be high. In the other two villages the virtual absence of irrigation facilities would tend to make the land ~~less~~ productive and also reduce the pressure on land. However, the data show that only in Nada Dol is this really true. The proportion of small holdings is relatively less than in the other two villages. In Seel, as we have already pointed out, 85 per cent of the holdings of the sample households fall in the less than 2 acre class. The probably reason for the prevalence of small holding here and the consequent pressure on land could be the small area of cultivated land available in the village. As pointed out earlier (Table 3.1) the net area sown is only 50 acres while the number of households is 28 giving an average of 1.79 acres per household. The corresponding figures of Adhuria and Nada Dol are respectively 0.91 acres and 3.01 acres of net sown area per household.

Finally we come to the occupational structure of the sample households. Table 3.6 shows that 75 per cent of the households in Adhuria, 40 per cent in Seel and 60 per cent in Nada Dol are dependent on agricultural as the main source of livelihood. In Adhuria, the remaining 25 per cent of the sample households derive their sustenance from trade, service and profession. In Seel on the other hand 45 per cent of the households are dependent on labour and the remaining 15 per cent on trade, service and profession. In Nada Dol there is a somewhat greater diversity in the occupation of households not dependent on agriculture. Thus 10 per cent are dependent on labour, 20 per cent on trade, service and profession and 10 per cent on horticulture. It is noteworthy that in no other villages does horticulture provide the main source of livelihood.

Thus agriculture is the predominant activity in two of the three villages while in the third more households are dependent on labour as the main occupation than on agriculture. However, when we analyse the distribution of the workforce by major activity status (Table 3.8) among the sample households, we find that in all the three villages agriculture accounts for the absorption of the majority of the workforce. The percentage of the working population engaged in agriculture is 69 in Seel, 76 in Nada Dol and 81 in Adhuria. Labour absorbs 25 per cent on the workforce in Seel, 11 per cent in Nada Dol and less than 2 per cent in Adhuria. In Adhuria and Nada Dol trade, service and profession engages a higher proportion of the workforce - 17 and 13 per cent respectively - than labour, while in Seel less than 6 per cent are engaged in this activity.

It is thus quite apparent that agricultural is the most important activity in all the three villages as it absorbs the highest proportion of the workforce among all economic activities. It will therefore be worthwhile to take a closer look at agriculture and its impact on the economic conditions of the sample households.

Table 3.8 : Distribution of Workers by Major Activity Groups in the Sample Villages

Activity Group	Villages					
	Adhuria		Seel		Nada Dol	
	No.	%	No.	%	No.	%
Agriculture and allied activities	47	81.03	36	69.23	41	75.93
Labour (non-ag.)	1	1.72	13	25.00	6	11.11
Trade, Service, Profession	10	17.24	3	5.77	7	12.96
Other	-	-	-	-	-	-
Total	58	100.00	52	100.00	54	100.00

IV

AGRICULTURAL ECONOMY IN THE HILL AREAS

As we have seen earlier agriculture is the predominant source of livelihood for an overwhelming majority of the rural population in the hill areas of U.P. Moreover given the nature of land and the pattern of distribution of land holdings agriculture can only be of a subsistence kind for most of the rural households in the hill areas. This is borne out by the data on agricultural production of the sample households in the three villages studied (Table 4.1).

It will be seen from Table 4.1 that, except in Adhuria, the level of foodgrain production is rather modest. The total production of foodgrains in Adhuria comes to 541 quintals as compared to 141 quintals in Seel and only 66 quintals in Nada Dol. These differences in production levels can be explained primarily by differences in irrigated area.

The quantum of agricultural production is related inversely to the total cultivated area but directly to the percentage of irrigated area in the three villages. Thus the cultivated area of the sample households (excluding area under orchards) is 19.25 acres in Adhuria, 23.90 acres in Seel and 28.85 acres in Nada Dol while the percentage of irrigated area is 98.18, 3.56 and nil in the three villages respectively. By way of comparison it may be mentioned that in 1977-78 the percentage of net irrigated area to net area sown in Almora district was 8.35 (U.P., Draft Sixth Plan, Vol.I, Annexure I, p.177). In

Table 4.1 : Production of Principal Crops by Sample Households

Crop	(Quintals)		
	Villages		
	Adhuria	Seel	Nada Dol
<u>Foodgrains</u>	<u>541.00</u>	<u>141.29</u>	<u>66.15</u>
Paddy	444.70	28.50	-
Wheat	70.56	45.05	25.00
Mandua	6.45	29.29	9.80
Madira	-	21.04	-
Maize	-	-	21.10
Barley	16.50	10.33	5.40
Pulses	2.79	7.08	4.85
<u>Cash Crops</u>			
Potatoes	231.70	-	516.00
Vegetables	-	-	28.15*
<u>Area Cultivated (Acres)</u>	19.25	23.90	28.85
<u>% Area Irrigated</u>	98.18	3.56	-

*Green Peas

terms of the availability of irrigation, therefore, Adhuria is way above the district average while the other two villages are decidedly below it.

The availability of irrigation also has an important bearing on the cropping pattern in the three villages. In the irrigated

village of Adhuria paddy is the single most important crop accounting for over 82 per cent of all foodgrain production. Next in importance is wheat with a share of 13 per cent. Coarse grains and pulses together account for less than 5 per cent of foodgrain production. In Seel and Nada Dol on the other hand coarse grains (Madua, Madira, Maize and Barley) are the main crops. Their share in total foodgrain production is about 43 per cent in Seel and 55 per cent in Nada Dol. Next in importance in these two villages is wheat with a share of about 32 and 38 per cent respectively. Paddy is grown only in Seel and constitutes about 20 per cent of total foodgrains produced. The share of pulses in food production is 5 per cent and 7 per cent in Seel and Nada Dol respectively.

Based on these facts it should hardly come as a surprise that most of the foodgrains produced by the sample households in these villages are meant for their own consumption. In Seel and Nada Dol there is no sale of foodgrains by any of the households which is quite understandable in view of the low volume of production on the one hand and the predominance of coarse grains in total foodgrain production on the other. It is only in Adhuria that we find foodgrains being marketed. The 20 sample households together reported sale of 171 quintals of paddy (about 38 per cent of production) and 6 quintals of wheat (about 8.5 per cent of production).

The rather low volume of agricultural production in Nada Dol is compensated to some extent by the cultivation of cash crops and by the adoption of horticulture as an important activity.

We turn next to this aspect of agricultural production in the sample villages.

Cash Crops

The most important cash crop in the villages studied is potato. However it is cultivated in only two of the three villages : Nada Dol and Adhuria. Apart from potatoes Nada Dol also grows vegetables (mainly green peas) for sale. The total production of potatoes by the sample households was 516 quintals in Nada Dol and about 232 quintals in Adhuria. In addition about 28 quintals of green peas were also grown in Nada Dol. A large part (83 to 84 per cent) of the potatoes and green peas produced by the sample households were sold in the market as the following table shows (see Table 4.2).

Table 4.2 : Production and Income from Cash Crops:
Adhuria and Nada Dol

Cash Crop	Village	
	Adhuria	Nada Dol
<u>Potatoes</u>		
1. Quantity Produced (Q)	231.70	516.00
2. Quantity Sold (Q)	194.00	435.40
3. 2 as % of 1	83.73	84.38
4. Gross Value of Sale (Rs.)	17935.00	48175.00
5. Expenses Incurred (Rs.)	7666.00	16594.00
6. Net Value of Sale (Rs.)	10269.00	31581.00
<u>Green Peas</u>		
1. Quantity Produced (Q)	-	28.15
2. Quantity Sold (Q)	-	23.35
3. 2 as % of 1	-	82.95
4. Gross Value of Sale (Rs.)	-	8450.00
5. Expenses Incurred (Rs.)	-	2758.00
6. Net Value of Sale (Rs.)	-	5692.00

Thus in these two villages potatoes and green peas are able to provide considerable cash income to the households growing them. Though the value of cash crops is considerably higher in Nada Dol than in Adhuria, its importance to the economic well-being of the households has to be seen in the context of the total agricultural economy of these two villages. As the output of foodgrains is rather low in Nada Dol - both in absolute terms as well as in relation to Adhuria - a large part of the income from cash crops in the former village would have to be spent in buying foodgrains from the market. In Adhuria, on the other hand, the proportion of income from cash crops spent on food grains would be much lower and therefore a larger part of it would be available for spending on other consumer items.

As far as the availability of foodgrains for consumption from own production is concerned we find that the situation is most comfortable in Adhuria and most precarious in Nada Dol. The per capita per day availability of foodgrains among the sample households from their own production is 537.6 gms. in Adhuria, 319.5 gms. in Seel and only 151.0 gms. in Nada Dol. These figures may be compared with the All India average of 413 gms. per capita per day reported in 1980 (Economic Survey 1981-82). In computing the per capita availability of food grains we have included only that part of household production which is available for consumption (i.e., excluding the quantity sold) and further assumed a paddy to rice ratio of 2:1. This computation shows a reasonably high degree of food security among

the sample households in Adhuria and a rather low one in Nada Dol. The situation in Seel, though not very comfortable, is nevertheless not as precarious as in Nada Dol.

Horticulture

Horticulture has been able to make some headway in only one of the three villages viz. Nada Dol. The reason for this is that only Nada Dol lies in the temperate fruit-growing belt. The hill areas of North India, it may be mentioned, have a comparative advantage in the cultivation of temperate fruits like apples, plums, peaches, peas, apricots etc. However the entire hill region is not suited for this purpose, as fruit cultivation is possible only in regions with specific agro-climatic features.

Of the 20 households in our sample from Nada Dol as many as 19 owned orchards, though only 17 reported sale of fruits. The breakdown of production and sale of fruits by these households is given in Table 4.3. It will be seen from this table that the most important fruit in terms of production is apple followed by pear, plum, apricot and peach. The total production of fruits was 501.15 quintals of which apples (293 quintals) constituted 58.5 per cent, pears (107 quintals) 21 per cent, plums (55.95 quintals) 11 per cent, apricots (40.05 quintals) 8 per cent and peaches (5.15 quintals) one per cent.

The gross income from the sale of fruits amounted to Rs.65,816 or about Rs.3872 per household, while the net income (excluding haulage and transportation charges, cost of packing materials,

Table 4.3 : Production and Sale of Fruits in
Nada Dol

Fruit	(Quintals)	
	Production	Sale
Apples	293.00	270.00
Pears	107.00	94.00
Plums	55.95	46.31
Apricots	40.05	34.16
Peaches	5.15	3.28
All Fruits	501.15	447.75

and maintenance and plantation expenses etc.) came to Rs.28,890 or Rs.1699 per household (See Table 4.4).

Table 4.4 : Income from Horticulture : Nada Dol

1. Gross Income from Sale of Fruits	Rs.65816
2. Expenses on plantation of trees	Rs. 1015
3. Expenses on maintenance of orchards	Rs.10240
4. Expenses on packing materials etc.	Rs. 8234
5. Selling costs (transportation etc.)	Rs.17437
6. Net income from sale of fruits 1-(2+3+4+5)	Rs.28890
7. Per household gross income (1÷17)	Rs. 3872
8. Per household net income (6÷17)	Rs. 1699

Thus we find that the net income from sale of fruits is considerable in Nada Dol, though not as high as the income from sale of potatoes. The cash income from these two sources (fruits and potatoes) compensates to a considerable extent, in Nada Dol particularly, the low volume of foodgrain production.

From the point of view of agricultural production, therefore, the three villages studied by us present three different patterns. Adhuria has a fairly high level of foodgrain production (especially paddy) and a modest level of production of cash crops. The main reason for this is its favourable location in a river valley with good irrigated lands. This gives the people of the village a high degree of food security and some cash income from the sale of foodgrains and potatoes. As the other extreme we have Nada Dol with a low level of foodgrain production but a relatively higher volume of cash crop production (chiefly potatoes and fruits) which gives the people considerable cash income to supplement the low availability of foodgrains from household production. In between we have the village of Seel with a modest level of agricultural production and the virtual absence of any cash crop. Decidedly the economic condition of the households is bound to be the worst in this village. It would be interesting to analyse which one of the three villages typifies best the general economic situation in the hill areas.

The economy of the three villages studied by us is dependent almost exclusively on agriculture which is the main productive activity. Within agriculture, moreover, there is very little diversification in the form of animal husbandry and dairying etc. While the number of animals, chiefly cattle (both milch and draught) is quite high in all three villages (See Table 4.5), the economic return in the form of cash income from animal husbandry is rather low as Table 4.6 shows.

Table 4.5 : Number of Animals Owned by Sample Households

Animals	Village		
	Adhuria	Seel	Nada Dol
Cows	23	26	39
Buffaloes	35	30	27
Bullocks	30	34	24
Goats	-	25	3
Sheep	-	-	12
Horses	-	-	4
Poultry Birds	-	51	-

Table 4.6 : Production and Sale of Animal Products
by Sample Households

Product	Village		
	Adhuria	Seel	Nada Dol
<u>Milk</u>			
Production (Lit.)	23230	12626	13410
Sale (Lit.)	2420	2020	250
Value of Sale (Rs.)	4840	4040	500
<u>Eggs</u>			
Production (No.)	-	3600	-
Sale (No.)	-	3600	-
Value of Sale (Rs.)	-	1800	-
<u>Other</u>			
Value (Rs.)	-	-	5000*
Total Value (Rs.)	4840	5840	5500

*Income from hiring out horses

Thus animal husbandry cannot be considered a subsidiary occupation of any major importance among the sample households. Milk is the only product produced in some quantity by the households but only a small part of total production is sold by them. The proportion of sale to production is 1.9 per cent in Nada Dol, 10.4 per cent in Adhuria and 16.01 per cent in Seel.

The picture of the agricultural economy at the village and household level that emerges from this brief review is of an essentially subsistence cultivation in small plots of land. Agriculture is oriented primarily to meeting the foodgrain

requirements of the cultivating households. Except in the valley areas with irrigated land, coarse grains are the main food crops which are not produced for sale. The only cash crop of any importance is potato which is cultivated in only two of the three villages. Horticulture, where possible, provides another avenue for the commercialisation of the rural economy. Thus it would not be inaccurate to claim that in the three villages studied by us the degree of commercialisation in agriculture is very small. The major constraint to the commercialisation of agriculture is the pattern of land ownership with a predominance of small holdings, and the nature of the land - largely unirrigated, except in the river valleys, and therefore dependent almost exclusively on rainfall for cultivation. In such a situation the prospects of any large-scale commercialisation of agriculture are also not very bright. Moreover, there are hardly any economic opportunities available to the people outside agriculture because of the virtual absence of industries in the hill areas. The people, however, do need cash income to buy foodstuffs which they do not produce as well as other items of consumption.

Our investigation shows that the per household expenditure on foodgrains is the highest in Nada Dol (Rs.2044.80) followed by Adhuria (Rs.460.50) and Seel (Rs.420.00) which is quite understandable in view of the extremely low level of foodgrain production in Nada Dol relative to the other two villages. The expenditure on other foodstuffs (excluding foodgrains) is however highest in Adhuria (Rs.1768.50 per household)

followed by Seel (Rs.1350.60 per household) and Nada Dol (Rs.1006.20 per household). Similarly the per household expenditure on other consumer items (both durable and non-durable) is also highest in Adhuria (Rs.3094.25). In this case the next higher figure is in Nada Dol (Rs.2052.70) and the lowest in Seel (Rs.1351.70). Thus the total consumption expenditure per household comes to Rs.5323.55 in Adhuria, Rs.5103.70 in Nada Dol and Rs.3422.30 in Seel.

It should be quite clear that the income from sale of paddy (in Adhuria), potatoes (in Adhuria and Nada Dol), peas and fruits (in Nada Dol) is not really enough to meet the consumption expenses as reported by the sample households. They would therefore have to turn to other sources for supplementing their income. The two important sources of income outside agriculture in these villages are wage labour, small government jobs and trade on the one hand and remittances received from members of the household who have imigrated in search of employment. As Table 4.7 shows, of the 20 sample households in each village, 14 in Adhuria and 13 each in Seel and Nada Dol reported income from labour, service and trade. As we have seen earlier, among the non-agricultural sources of livelihood trade and service predominate in Adhuria, wage labour and service in Seel and service and wage labour in Nada Dol. Further 10 households reported receipt of remittances in Adhuria, 6 in Seel and only 3 in Nada Dol.

Table 4.7 : Income from Sources other than
Agriculture

Source of Income	Village		
	Adhuria	Seel	Nada Dol
<u>I. Labour, Trade & Service</u>			
i) No. of H.H. reporting	14	13	13
ii) Total income (Rs.)	40120	25490	31432
iii) Per H.H. income (Rs.)	2865.71	1960.77	2417.85
<u>II. Remittances</u>			
i) No. of H.H. reporting	10	6	3
ii) Total income (Rs.)	24400	17000	6600
iii) Per H.H. income (Rs.)	2440.00	2833.33	2200.00

It should be noted that in all three villages not only do more households receive income from non-agricultural work than from remittances but the absolute value of such income is also higher. Moreover, except in Seel, the per recipient household income from non-agricultural sources is also higher than that of remittances. Thus, while the importance of remittances to the economy of the recipient households cannot be underated, it needs to be borne in mind that relative to other sources of income it is not as important. Perhaps in the overall economy of the three villages studied remittances play an important role only in Adhuria where half the sample households reported receipt of such income. In the other two villages this proportion of sample households receiving remittances is much smaller - 30 per cent in Seel and 15 per cent in Nada Dol.

To the extent that remittances are an index of out-migration from the villages, we find that the highest level of out-migration exists in Adhuria followed by Seel and Nada Dol. This may appear somewhat surprising in view of the fact that the economy of all the villages is primarily agricultural and the village of Adhuria has the most fertile land with most of the land being irrigated. In fact one would have expected maximum migration from Seel as it is the most backward village followed by Nada Dol and Adhuria. However, the observation that maximum out-migration of males exists in Adhuria is confirmed by the evidence on sex ratios presented in section III (Table 3.4) which showed that women outnumber men in Adhuria by 80 to 59 while in the other two villages men outnumber women - by 58 to 55 in Seel and by 65 to 55 in Nada Dol.

One possible explanation for this phenomenon could be that out-migration of males is related to the pressure of population on land. Thus the data on distribution of land holdings (Table 3.5) show that 65 per cent of the sample households in Adhuria own less than 1 acre while in Seel and Nada Dol 50 and 15 per cent of the households respectively fall in that category. Further in the former two villages there are no holdings more than 5 acres whereas in Nada Dol 3 households, constituting 15 per cent of the sample, belong to the more than 5 acre category. This conclusion seems to correspond with the earlier argument that the economy of the villages in the hill areas is based on subsistence agriculture. The subsistence "ethic" implies that in the absence of other avenues of

sustenance the people will tend to stick to the land and derive however precarious an existence as long as land is available for providing basic security. However, once land itself becomes scarce they are forced to migrate outside - in the case of the hills mainly to the plains and the big cities - in search of employment leaving their families behind to tend the small plots of land.

An important consequence of the out-migration of adult males from the hill areas is that it imposes a heavy burden on the women in the villages. In the absence of male members the burden of cultivating the land falls on the women, who undertake almost all agricultural operations except ploughing. Apart from doing their normal household chores they also have to tend the cattle, fetch water, fodder and firewood. Owing to gradual deforestation the distance at which fodder and firewood are available has been increasing over the years. It is also a very arduous and hazardous task. We thus find that the women in the rural areas have to lead a life full of hard work and drudgery.

CONCLUSION

In the foregoing two sections we have analysed the nature of the economy at the village and household levels on the basis of survey data from 60 households in three selected villages. To conclude this report we wish to place the results of our study in the context of the general concerns outlined in sections I and II. To recapitulate briefly we had mentioned at the outset that the purpose of the study is to find out in what sense the hill areas of U.P. can be considered backward, what are the general feature of backwardness in this area, and what impact backwardness has on the lives of the ordinary people. The purpose of this concluding chapter is to relate the substantive aspects of this study to the problems posed earlier.

The review of macro-level (hill region) data in section II shows that while the per capita income levels in the hill region are the highest among all regions of Uttar Pradesh, in actual fact the hill region cannot be considered a developed or advanced region. This is so far two important reasons : (i) the existence of a high level of inter-district disparity in this region with two districts (Dehra Dun and Naini Tal), which have a substantial plains area, being far more developed than the other six which are predominantly hill districts; and (ii) the heavy dependence of the economy of the predominantly hill districts on the primary sector, especially

agriculture and forestry, with the former being essentially subsistence oriented and latter mainly an extractive activity resulting in few benefits to the local people; and a very low level of industrialisation. Taking into account all these features we find that the hill region of Uttar Pradesh (especially the predominantly hill districts) is indeed an economically backward area.

At the village and household levels economic backwardness is manifested in the almost total dependence on agriculture as the primary means of sustenance and livelihood with very few opportunities available outside agriculture. This feature encourages migration of adult males outside the hill areas in search of employment putting a heavy burden on the women-folk who have to take on the responsibility of all agricultural work in addition to their normal household chores. Moreover, because of the predominance of very small holdings and the nature of the land, the bulk of which is unirrigated (except in the valley areas), agriculture is essentially of the subsistence type. Except in the valley areas, where irrigation is available, agriculture is restricted to the production of food grains, especially coarse grains. The only cash crops of any significance are potatoes and temperate-fruits. These too are not grown in all areas. We thus find a rather low level of commercialisation in agriculture. The result is that while agriculture absorbs over 80 per cent of the work-force in the hill areas it provides at best the basic subsistence requirements of the population and that too in the agriculturally

advantaged valley areas. In the upland areas, especially where horticulture has not been able to make any headway, the economic conditions of the rural households are rather precarious.

The people, therefore, have to fall back on other sources for meeting their immediate consumption needs. The chief among these sources are wage-labour in non-agricultural work (e.g. road construction, forestry etc.), petty government jobs, running small shops, and remittances received from members of the household who have migrated.

It is true that in the hill areas of U.P. one does not find rural poverty in as ugly and naked a form as in other parts of the State, yet most of the rural people lead a life very close to the subsistence level. What is, perhaps, rather disturbing about this situation is that there do not seem to be any immediate prospects of bringing about fundamental changes in the rural economy. The primary reason for this pessimism is the basic conditions of agriculture. Land holdings are very small and scattered in small terraced fields; irrigation is scarce, the quality of the soil is poor, and most of the burden of agricultural operations is borne by the women-folk who also have to do their normal household duties. To expect any major break-through in agriculture under these conditions is rather fanciful.

As it is land is being cultivated quite intensively in the hill areas. For instance the cropping intensity in the hill

region was reported to be 159.65 in 1977-78 compared to 139.97 in the western region, 128.97 in the central region, 135.05 in the eastern region, 109.88 in the Bundelkhand region and 134.02 in the State in general (U.P., Draft Sixth Five Year Plan, Annexure I, p.166). Hence one cannot expect agriculture in the hill areas to break out of the subsistence syndrome unless there is a major expansion of irrigation facilities on the one hand and a shift towards high-value crops on the other. The first involves great cost because of topographical features while the latter carries an element of risk on the part of individual cultivating households because by deciding to go in for high-value crops they would be giving up the basic food security, however precarious, which the existing cropping pattern effords.

However in the absence of any change in the agricultural economy as it exists today, there is always the danger that with increasing pressure of population on land the people may be forced to clear forest lands in order to bring them under cultivation. The long-term environmental consequences of such a development can only be disastrous.

The problems of economic backwardness and underdevelopment in the hill areas of U.P., thus, are in an important sense specific to this region and to that extent different from other backward areas/regions in the state and the country. While the heavy dependence on agriculture is a common feature of all

backward areas, in the hill areas the major constraint on agricultural development and growth is the nature of the terrain and the quality of the soil which affect the productivity of the land on the one hand and the cropping pattern on the other. Topographical features also act as a serious constraint on the expansion of irrigation facilities and thereby on agricultural growth.

Since opportunities outside agriculture are limited, the people have got stuck in a system of subsistence cultivation. The only redeeming feature in an otherwise gloomy picture is the relatively lower density of population in the hill areas which may perhaps explain the absence of abject poverty as in other parts of the State. Time, however, is fast running out and this advantage too may not last much longer.

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